Claims

What is claimed is:

1. A method for eliciting information, useful to a user, from first and second
2. collections of entities or resources with explicit and/or implicit, static and/or dynamic
3. relations therebetween, the method comprising the steps of:
4.   obtaining the first collection of entities and the second collection of entities;
5.   obtaining affinity values, including, for each given one of the entities, a
6. respective affinity value for the given entity and each respective one of the other
7. entities of the collection;
8.   initializing significance values for each of the entities; and
9.   iteratively calculating updated significance values for each entity, based on
10. the affinities and on the significance values prior to the iterative update, until a
11. predetermined condition is reached;
12.   obtaining the useful information based on the significance values after the
13. final iteration of the step of iteratively calculating.

1. 2. A method as recited in claim 1, wherein the step of obtaining affinity
2. values includes obtaining, for each one of the given entities in the first collection, a
3. respective affinity value for the given entity and each respective one of the entities
4. in the second collection.

1. 3. A method as recited in claim 1, wherein the step of obtaining first and
2. second sets of entities includes obtaining a single set of entities as both the first set
3. and the second set.

1   4. A method as recited in claim 3, wherein the step of obtaining affinity

2   values includes obtaining, for each one of the given entities in the single set of

3   entities, a respective affinity value for the given entity and each respective other

4   one of the entities in the single set.

1   5. A method as recited in claim 1, wherein the step of obtaining affinity

2   values includes the steps of:

3   obtaining a set of raw affinity values; and

4   deriving a set of derived affinity values from the raw affinity values.

1   6. A method as recited in claim 5, wherein the step of deriving derived

2   affinity values includes using one of:

3   a sum operation,

4   an average operation,

5   a min operation,

6   a max operation, and

7   a linear combination.

1   7. A method as recited in claim 1, wherein:

2   the method further includes the step of computing similarity values between

3   the entities based on the affinity values; and

4   the step of iteratively calculating updated significance values includes

5   iteratively calculating updated significance values based on the affinities and on the

6   significance values.

1   8. A method as recited in claim 7, further comprising the step of iteratively

2   calculating a updated principal affinity component value for each entity of interest

3   based on the affinities and similarities.

1   9. A method as recited in claim 8, wherein:

2   the step of computing similarity values includes computing a similarity matrix;

3   and

4   the step of iteratively calculating a updated principal affinity component value

5   includes calculating a non-principal eigenvector of the similarity matrix.

1   10. A method as recited in claim 8, wherein the step of obtaining the useful

2   information includes obtaining the useful information based on the updated principal

3   affinity component values.

1   11. A method as recited in claim 10, wherein the step of obtaining the useful

2   information based on the updated principal affinity component values includes

3   obtaining a cluster.

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